

ATSRAC - 2002

Task 7 Working Group

Report to ATSRAC

ATSRAC MEETING

Washington, D.C.

July 10, 2002

Don Andersen

Task 7 Working Group

July 10, 2002

- **TASK 7.1:** Establish a Harmonization Working Group (HWG)- Closed

Organization	Members
FAA	Brett Portwood
INDUSTRY (Boeing)	Don Andersen - (Co-chair, US) Tracey Johnson-resigned Dave Padilla Morris Frimer Frank Wright Ramiro (Ram) T. Esparza II Ross Lloyd
INDUSTRY (Airbus)	Anthony (Tony) John Poole (Co-chair Europe) Phillippe Renhas Dominique Mazzarino (reassigned)
INDUSTRY (Embraer)	Percy Constanti
AIRLINE	Robert (Bob) W. Sitz (Delta)
COMMUNITY	Dennis Lee (Canadian) Scott Christian (United) Chris Nichols (AirTran) Lukas Zuelling (SR Technics) Elias Cotti (NBAA) Robert (Bob) L. Barnett (Airborne Express-retired)

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- ***TASK 7.2: Coordination with other ATSRAC HWGs - Closed***

To ease the coordination process, ATSRAC created an integration team to address this subtask within each of the major tasking statements. The team is comprised of the following primary and backup individuals:

- HWG 6 - Vid Variakojis/Jack Evans
- HWG 7 - Tracey Johnson/Don Andersen
- HWG 8 - Paul Lapwood/Spencer Bennett
- HWG 9 - Randy Boren/Gil Palafox
- Leader - Mike Nancarrow

This integration team process was accepted by ATSRAC in July 2001.

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TASK 7.3: Define a Standard Format - Open

- ➔ Process followed
 - ➔ Analysis of the existing available ESWPMs focussing on the different formats
 - ➔ Use of working document to highlight differences between OAMs ESWPMs
 - ➔ The production of ESWPM format (**Appendix 2**) with the aim to produce a generic MBI
- ➔ Appendix 2 of the report received partial consensus in March but could not obtain full consensus. Requesting additional time to achieve full consensus

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- ***TASK 7.3: Define a Standard Format - Open***

Proposal 1

Front Matter

- Transmittal Letter (Optional)
- Manufacturer's Revision Record (Optional)
- Manufacturer's Temporary Revision Record
- Introduction
- Title page
- List of effective pages
- Table of contents
- Alphabetical index
- Service bulletin list
- List of chapters
- Equipment List

General

- Safety practices
- Consumables
- Airplane zones
- EWIS components sans wiring

Wiring Inspection/Repair

- Wire types
- Wiring inspection
- Cleaning procedures
- Harness disassembly
- R&R instructions

Terminations

- Insulation removal
- Termination types by group

Electrical Devices

- Device types by group
- Detailed component information

Assembly

- Wire marking
- Harness assembly

Installation

- Separation
- Bonds and grounds
- Harness installation

Specific systems

Airline custom information

- Unique systems
- Operator- specific data

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- ***TASK 7.3: Define a Standard Format - Open***

Proposal 2

Front Matter

Indexes

Definitions

General

TOC/Subject matter

Definitions

Safety practices

Consumables

Tooling Data

TOC/Subject matter

Tools (all types)

Component Data

TOC/subject matter

Wire types

Connectors

EWIS components

Assembly Practices

TOC/Subject matter

Termination methods

Harness assembly methods

Installation Practices

TOC/Subject matter

Attachment methods

Separation/zone issues

Moisture/heat protection

Bonding/grounding

Maintenance Practices

TOC/Subject matter

Cleaning

Inspection

Testing

Repair

Replacement

Operator Data

Customer specific data

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- ***TASK 7.4: Define a Standard Minimum Content- Closed***

- Process followed
 - Analysis of the existing available ESWPMs focusing on the different contents
 - Use of working document to highlight differences between OAMs ESWPMs
 - The production of Table 3 with the aim to produce a generic MBI
- Required a voting process to arrive at the proposed minimum content but and subsequently updated to include front matter information

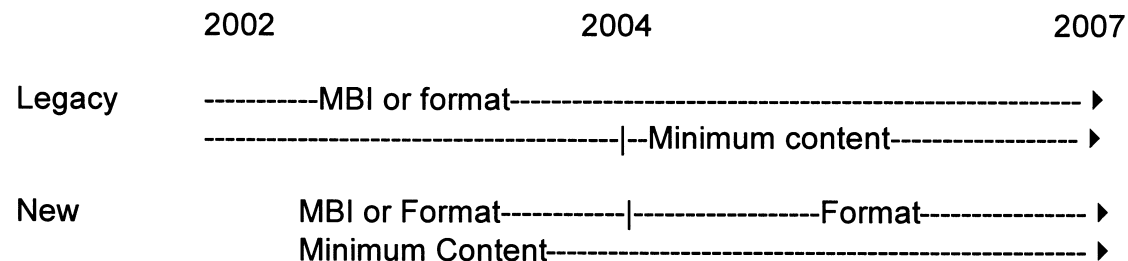
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TASK 7.5: Recommend Updates of Existing ESWPMs - Closed

Use of an MBI can be considered either an interim step until such time as a complete rearrangement of a legacy document can be made to conform to the common format.

- HWG7 recommends that legacy documents be updated within two years to include the minimum content as defined in the attachment
- HWG7 is proposing that new documents released after two years include the minimum content as defined in the attachment.
- HWG7 further recommends that all new ESWPM documents incorporate the recommended common format within five years time.



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Summary:

It was important for HWG 7 to define solutions which, while at the same time satisfying the tasking goal, would take into account :

- “Usability and readily retrievable” data (tasking statement)
- “Human factors to be considered” (tasking statement)
- The technical publication philosophy of all considered OAMs,
- The cost economics due to an immediate major manual overhaul
- The disturbance caused to the end-users that have become accustomed to the current format they use.

HWG7 must reconvene to ensure industry consensus on a standardized format

TABLE 1: GROUPS, SEQUENCE, AND DESCRIPTION OF MAJOR TOPICS

GROUP	MAJOR TOPIC	DESCRIPTION
GENERAL DATA	SAFETY PRACTICES	Safety regulations and general safety precautions to prevent injury to personnel and damage to the airplane
	AIRPLANE ENVIRONMENTAL AREAS	Definition of types of areas upon which wiring configuration and wiring component selection is constrained
	CONSUMABLE MATERIALS	Wiring maintenance processing materials; e.g., solvents, aqueous cleaners, lubricants, etc.
	WIRING MATERIALS	Materials that become an integral part of the wiring configuration excluding wire and cable; e.g., sleeves, shield material, tie material, sealants, etc.
G INSPECTION EPAIR	WIRE AND CABLE TYPES	The principal material component of airplane wiring; includes type identification and basic description; alternative wire types (replacements, substitutions)
	WIRING INSPECTION	Criteria for correct installation, correct wiring assembly configuration; damage conditions and limits for wiring components (wire and cable, termination types, electrical devices); factors that warrant component disassembly for internal inspection; determination of cause of damage; wiring integrity testing
	WIRE HARNESS CLEANING	In support of inspection as well as prevention of degradation and preparation for repair; recommended cleaning materials and procedures based on type of contamination
	WIRE HARNESS DISASSEMBLY	In support of inspection, cleaning when applicable; also supports new wiring installation
	WIRING REPAIR AND REPLACEMENT	Repair of wiring installation, wiring assembly configuration, wiring components (wire and cable, wiring terminations, electrical devices); wire and cable replacement; wiring functional identification
ING INSTALLATION	WIRE SEPARATION	Explanation of separation categories, separation identification, and necessary conditions for maintaining separation
	ELECTRICAL BONDS AND GROUNDS	Bond surface preparation, ground hardware configurations, bond integrity testing
	WIRE HARNESS INSTALLATION	Routing, supports; wiring protection, factors affecting wiring assembly configuration; connection to equipment, new wiring, removal from service
ING ASSEMBLY	WIRE MARKING	Marking; applicable conditions
	WIRE HARNESS ASSEMBLY	Wiring assembly configuration: assembly materials, layout, overall protection; factors affecting wiring installation
ING MINATIONS	WIRE INSULATION AND CABLE JACKET REMOVAL	Wire and cable: Insulation removal, jacket removal; associated damage limits
	TERMINATION TYPE	Wiring terminations (interconnects) and accessories grouped by component type from simple to complex: <ul style="list-style-type: none"> a. Common data by group (if any); e.g., tool description and operation, definition of internal damage and limits, internal cleaning, accessories b. By individual type - part numbers and description, definition of internal damage and limits (if not specified by common data), disassembly, assembly, installation
CTRICAL DEVICES	DEVICE TYPE	Electrical devices by group: <ul style="list-style-type: none"> a. Common data by group (if any); e.g., tool description and operation, definition of internal damage and limits, internal cleaning, accessories b. By individual type - part numbers and description, definition of internal damage and limits (if not specified by common data), disassembly, assembly, installation
CIFIC SYSTEM ING	SPECIFIC WIRING ASSEMBLY	For wiring that has a necessarily specific configuration: <ul style="list-style-type: none"> - Applicable conditions for repair and replacement - Disassembly, assembly, installation, assembly integrity testing
LINE CUSTOMIZED A	AIRLINE SPECIFIED	Reserved for airline use